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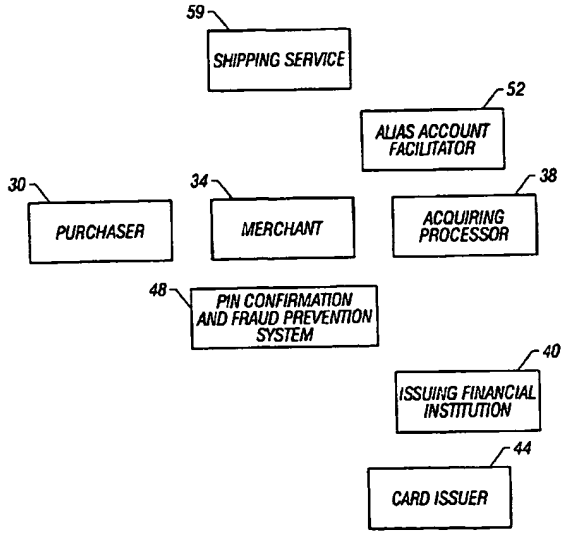


(57) Abstract: A method of masking the identity of a purchaser (30) during a credit transaction. The method includes the steps of establishing an alias credit account associated with the purchaser. The alias credit account includes an alias name and alias account number. The purchaser buys a selected item by utilizing the alias credit account. The alias account is then verified as a valid account having adequate credit to purchase the selected item. Next, the alias account is associated with the purchaser. The selected item may then be delivered to an alias address allowing pickup of the selected item by the purchaser or to his home address without the merchant knowing the purchaser's home address or the shipper knowing the nature of the item.

WO 01/43084 A2

METHOD OF MASKING THE IDENTITY OF A PURCHASER DURING A CREDIT TRANSACTION

TECHNICAL FIELD

This invention relates to credit transactions, and more particularly, to a method of masking the identity of a purchaser during a credit transaction.

BACKGROUND ART

The use of credit cards has increased tremendously over the last few years. However, the popularity of credit cards has not completely translated to the Internet. Recent polls indicate that most people are reluctant to purchase anything via the Internet due to concerns over lack of privacy when using a credit card through the Internet. There are several problems associated with the use of a credit card, whether over the Internet, a telephone, via mail, or even in person. During a credit card transaction, several parties (e.g., the merchant, a credit card issuer, and various financial institutions) may know the name, credit card number, billing address, and shipping address of a buyer. The merchant is also able to collect a detailed list of the items the buyer has purchased. It is a common practice for the merchants, credit card issuers, and financial institutions to sell this information to marketing firms. This information may be linked to other databases to form vast databases detailing personal information on a large amount of people. This collection and transfer of information results in a large amount of unwanted solicitations, such as junk mail and telephone solicitations.

Identity theft is another serious problem resulting from using a credit card, especially over the Internet. Identity theft accounts for over $100 million lost each year. Studies also indicate that the crime of identity theft is on the rise. Identity theft occurs when a thief obtains the credit card number and name of an individual. With this information, the thief can request and receive other credit cards and other forms of identification associated with the individual. In essence, the thief "steals" the identity of the individual. The theft of the individual's identity can result in ruined credit, bill collector harassment, criminal records and mixed up identities for the innocent credit card user.

Lack of privacy is perceived to be especially acute by the consumer when using a credit card over the Internet. Therefore, many consumers are reluctant to purchase items over

the Internet, resulting in billions of dollars of lost sales. Improved privacy is necessary to increase credit card sales, especially over the Internet.

Although there are no known prior art teachings of a solution to the aforementioned deficiency and shortcoming such as that disclosed herein, prior art references that discuss subject matter that bears some relation to matters discussed herein are U.S. Patent Number 4,055,746 to Peterson (Peterson), U.S. Patent Number 5,224,162 to Okamoto et al. (Okamoto), U.S. Patent Number 5,420,926 to Low et al. (Low), and U.S. Patent Number 5,889,862 to Ohta et al. (Ohta).

Peterson discloses a method of securely using a credit card by utilizing a card having a plurality of ferromagnetic elements, capable of storing binary indicia, sandwiched between thin sheets of a non-magnetic material. Adopted names are provided on two faces and four edges of the card to provide security. The card may be inserted into a computer in any one of eight ways. When the proper adopted name is selected, the stored information on the card is released. The card owner knows the adopted name while an imposter has only one chance in eight of properly inserting and using the card. However, Peterson does not teach or suggest a parallel anonymous credit card account associated with an existing credit card account. Additionally, Peterson does not solve the privacy problems associated with credit card transactions. Peterson also suffers from the disadvantage of requiring a complex new type of credit card for use in transactions.

Okamoto discloses an electronic cash system utilizing a blind signature system in which a user has electronic cash and a license issued by a bank showing that the user is entitled to use the electronic cash. The user presents to a store the electronic cash, information containing the license, and a composite number which is the product of at least two prime numbers. The store checks the validity of the license and the composite number, and if they are valid, prepares and offers an inquiry to the user. In reply to the inquiry, the user computes a power residue of a desired function using the composite number as a modulus and shows it as a response to the store. The store then verifies the validity of the response through the utility of the composite number, and, if valid, acknowledges the payment with electronic cash of the amount of money to be used. However, Okamoto does not teach or suggest a parallel anonymous credit card system. Okamoto merely discloses utilizing a complicated blind signature system which requires complex calculations by both the card user and the bank during any transaction.

Low discloses a method of performing credit card transactions without disclosing the subject matter of the transaction to the institution providing the credit card. The method includes the use of a communications exchange so that information and funds may be transferred without the destination for the transfer knowing the source of the information or funds and the use of public key encryption so that each party to the transaction and the communications exchange can read only the information the party or the exchange needs for its role in the transaction. However, Low does not teach or suggest associating an anonymous credit card account with an existing credit card account. Additionally, Low suffers from the disadvantage of requiring two banks to implement and use the system, resulting in higher transaction costs.

Ohta discloses a method of implementing traceable electronic cash. A user sends both public and secret information with his real name to a bank. The bank recognizes the user's identity and generates a pseudonym of the user. The bank uses a signature function to attach a signature to information composed of the public information and sends the user the signed information with a license. The user generates authentication information and sends the authentication to the bank, using a blind signature system. If the user abuses the electronic cash, the bank files a court order to reveal the correspondence between the real name and pseudonym of the user and trace the electronic cash spent. However, Ohta does not teach or suggest implementing a parallel anonymous credit card account associated with an existing accounting. Ohta also requires utilizing a blind signature scheme which is complex and expensive to implement.

Review of each of the foregoing references reveals no disclosure or suggestion of a method as that described and claimed herein. Thus, it would be a distinct advantage to have a method which provides a simple and inexpensive way of masking the identity of a credit user during a credit transaction. It is an object of the present invention to provide such a method.

DISCLOSURE OF INVENTION

In one aspect, the present invention is a method of masking a true identity of a purchaser during a credit transaction. The method begins by establishing an alias credit account associated with the purchaser. The alias credit account masks the true identity of the purchaser by displaying only alias information. Next, the purchaser conducts a credit transaction by

buying a selected item using the alias credit account. The alias credit account is then associated with the purchaser.

In another aspect, the present invention is a method of conducting an anonymous credit card transaction by a purchaser. The method begins by the purchaser ordering a selected item. The purchaser utilizes an alias credit account having alias information of the purchaser. The alias credit account is associated with a core account having a real identity of the purchaser. Next, a credit transaction for the selected item is authorized, and the selected item is then sent to the purchaser.

In still another aspect, the present invention is a method of masking a true identity of a purchaser during a credit transaction. The method starts by establishing an alias credit account associated with the purchaser. The alias credit account includes an alias name masking the true identity of the purchaser and may also include an alias account number, an alias address, and an alias Personal Identification Number (PIN). The purchaser then conducts a credit card transaction to purchase a selected item using the alias credit account. The alias account is then verified as a valid credit account, and it is verified that sufficient credit is available to purchase the selected item. The alias credit account is associated with a core account displaying the true identity of the purchaser. The core account is then debited for the credit card transaction.

In another aspect, the present invention is a method of masking a true identity of an individual requiring a credit status report to complete a transaction. The method begins by the individual establishing an alias account. Next, the individual conducts the transaction requiring a credit status report using the alias account. The financial institution then requests the credit status report. The alias account is associated with the individual. Next, the credit status report is sent to the financial institution.

In another aspect, the present invention is a method of masking a true identity of an individual during a transfer of medical records of the individual from a first health care provider to a second health care provider. The method begins by transferring the medical records to a service organization. Next, the true identity of the individual is masked on the medical records by the service organization. The service organization then transfers the masked medical records to the second health care provider.

BRIEF DESCRIPTION OF DRAWINGS

The invention will be better understood and its numerous objects and advantages will become more apparent to those skilled in the art by reference to the following drawings, in conjunction with the accompanying specification, in which:

FIG. 1 (Prior art) is a block diagram illustrating existing credit card transactions;

FIG. 2 is a block diagram illustrating a credit card transaction of a purchaser utilizing an alias account in accordance with the teachings of the present invention;

FIGs. 3A and 3B are flow charts outlining the steps for processing a credit card transaction utilizing an alias account in the preferred embodiment of the present invention;

FIGs. 4A and 4B are flow charts outlining the steps for processing an alias credit card transaction though the alias account facilitator in an alternate embodiment of the present invention;

FIGs. 5A and 5B are flow charts outlining the steps for processing a alias credit card transaction though the alias account facilitator 52 acting as an Independent Service Organization (ISO) in an alternate embodiment of the present invention;

FIGs. 6A and 6B are flow charts outlining the steps for establishing an alias account by the purchaser having an existing account in the preferred embodiment of the present invention;

FIGs. 7A, 7B, and 7C are flow charts outlining the steps for establishing an alias account by the purchaser requiring a primary core account in the preferred embodiment of the present invention;

FIG. 8 is a top level block diagram illustrating a system configuration of an alias account system in the preferred embodiment of the present invention;

FIG. 9 is a diagram of high level information transfer by the alias account system in the preferred embodiment of the present invention;

FIG. 10 is a block diagram illustrating a medical transaction of a purchaser utilizing an alias account in accordance with the teachings of the present invention; and

FIG. 11 is a block diagram illustrating a transaction for determining a credit status of a customer utilizing an alias account in accordance with the teachings of the present invention.

MODES FOR CARRYING OUT THE INVENTION

A method of masking an identity of a person during a transaction is disclosed.

FIG. 1 is a block diagram illustrating an existing credit card transaction. A purchaser 10 buys an item from a merchant 12 using a credit card. The merchant requests authorization for the credit card transaction by communicating with an authorization center 14 via a communications link 16. In most cases, the link 16 is a direct electronic link to the authorization center. The authorization center then verifies that the purchaser's credit card account is a valid account and has available credit by querying an issuing financial institution/card issuer 18 via a communications link 20. The issuing financial institution/card issuer keeps and processes all transactions of the purchaser's credit card account. The issuing financial institution/card issuer then responds to the query by either authorizing or rejecting the requested credit card transaction. The authorization center then relays the authorization or rejection message to the merchant. The merchant, upon receiving proper authorization from the authorization center, delivers the item to the purchaser.

Several problems arise from existing credit card transactions. Various financial institutions/card issuers and merchants keep large databases storing the credit card transactions of their customers (purchaser 10) and other account information, such as the home address, telephone number, and other personal data of their customers. Typically, these financial institutions sell this information to various marketers, thereby violating the privacy of the purchaser. This may result in the purchaser receiving numerous solicitations, such as mailings and telephone calls.

Other problems also result from utilizing the existing credit card system. At times, the name and credit card number are obtained by thieves during the transaction process. The thieves use this information to establish new credit card accounts, and are actually stealing the "identity" of the purchaser. This information may be stolen from various sources during Internet purchases, telephone purchases, live purchases, discarded credit card receipts and statements, and other sources.

In existing credit card systems, a single account is utilized. The account usually includes personal information necessary to process any credit card transaction. Personal information may include account name, account number, billing address, telephone number, and password identifier (for example, the maiden name of the purchaser's mother), as well as other personal information data necessary to initially establish the account..

In the preferred embodiment of the present invention, a separate parallel "alias" account is established and associated with the primary "core" account. In other embodiments, the parallel alias account may also be used by multiple core accounts. Additionally, multiple alias accounts can be set up and used for a single core account (e.g., family members each having individual accounts linked to a single core account). The parallel alias account may include an alias account name, alias account number, an alias address, and a password identifier (e.g., mother's maiden name). The alias account is used by a purchaser to mask the true identity of the purchaser when privacy regarding the purchaser's credit card transactions is desired. In addition, a second alias account may be established utilizing a back-up alias account name, a second alias account number, a second alias address, and a password identifier. The back-up alias account may be used when the first alias account(s) is compromised. The purchaser may also have a plurality of back-up accounts.

FIG. 2 is a block diagram illustrating a credit card transaction of a purchaser 30 utilizing an alias account accordance with the teachings of the present invention. In the preferred embodiment of the present invention, the purchaser communicates through a data network, such as the Internet. In alternate embodiments, the purchaser communicates via telephone, mail, or in person to a merchant 34. The merchant 34 may have a web site accessible through the Internet, a telephone receiving system, or a mail order address. The merchant communicates with an acquiring credit card processor 38, which typically processes credit card transactions utilizing the Automated Clearing House (ACH) Network to authorize a credit card transaction. The ACH Network is a processing and delivery system that provides for the distribution and settlement of electronic credits and debits among a large number of financial institutions. The acquiring processor may be a financial institution or a third party processor. The acquiring processor communicates with an issuing financial institution 40 or a card issuer 44. The merchant may also optionally communicate with a PIN confirmation and fraud prevention system 48 (e.g., CyberSource, CyberCash, Digital Identification), or other method of verifying the identity of the purchaser and the validity of the purchase. In alternate embodiments of the present invention, a service organization called an alias account facilitator 52 may communicate with the merchant. Additionally, the alias account facilitator may communicate with the acquiring processor 38, or the issuing financial institution. The merchant may send packages via a shipping system 59. The shipping system may also communicate with the alias account facilitator. The shipping system may include a private

postal store such as Mail Box, Etc., a postal box located at a U.S. Postal Station, or a private shipper such as United Parcel Service (UPS) or Federal Express (FEDEX). In the preferred embodiment, all the components shown in FIG.2 are connected through a data network such as the Internet and may utilize encryption techniques such as Secure Sockets Layer (SSL) or Secure Electronic Transaction (SET).

FIGs. 3A and 3B are flow charts outlining the steps for processing a credit card transaction utilizing an alias account in the preferred embodiment of the present invention. With reference to FIGs. 2, 3A, 3B, and 3C, the steps of the method will now be described. Beginning with step 70, the purchaser 30 orders an item utilizing an alias account name and number. The purchaser may purchase via the Internet, telephone, in person, or via mail. In step 72, the merchant receives the order from the purchaser. In step 74, the merchant may optionally verify the identity of the purchaser by requesting a personal identification number (PIN) from the purchaser. The PIN is then verified via the PIN confirmation and fraud prevention system 48. Next in step 76, the merchant requests authorization of the transaction using the alias account from the acquiring processor 38. In step 78, the acquiring processor, utilizing the ACH Network, requests authorization from the issuing financial institution 40 or, if required, the card issuer 44. In many instances, the issuing financial institution, such as a bank, is actually a credit card issuer. In other cases, the credit card is issued by a separate card issuer (e.g., American Express). In step 80, the card issuer or the issuing financial institution replies to the authorization request to the acquiring processor. The reply will include either an acceptance of the credit transaction or a rejection of the credit transaction. Next, in step 82 (FIG. 3B), the acquiring processor forwards the authorization response to the merchant.

In step 84, it is determined by the merchant if the credit transaction is accepted. If the credit card transaction is accepted, the method moves to step 86, where the merchant sends the ordered item(s) to the purchaser. The ordered item may optionally be delivered via the shipping system 59 to an alias address associated with the alias name of the purchaser. The alias address may be located at a private postal store or at a remote location away from the purchaser, such as a postal box located at a U.S. Postal Station, requiring the pickup of the ordered item by the purchaser. Alternately, the ordered item may be sent via a blind shipment to a private shipping company. The merchant sends the ordered item to the private shipping company with the purchaser's alias account number. The private shipping company then

communicates with the alias account facilitator to obtain the desired shipping address of the purchaser, which may be the purchaser's actual address or an alias address.

If, however, it is determined that the credit transaction is rejected, the method moves from step 84 to step 88, where the merchant rejects the purchaser's order.

The method described in FIGs. 3A and 3B illustrates the credit card transaction in which the financial institution or card issuer associates and tracks the alias account with the primary core account. All information utilized in the purchase order utilizes only the alias account information, thereby maintaining the privacy of the purchaser by masking the true identity of the purchaser 30.

FIGs. 4A and 4B are flow charts outlining the steps for processing a alias credit card transaction though the alias account facilitator 52. With reference to FIGs. 2, 4A, and 4B, the steps of the method will now be described. Beginning with step 90, the purchaser 30 orders an item utilizing an alias account name and number. The purchaser may buy through the Internet, telephone, mail, or in person. In step 92, the merchant receives the order from the purchaser. In step 94, the merchant may optionally verify the identity of the purchaser by requesting a personal identification number (PIN) from the purchaser. The PIN is then verified via the PIN. Next, in step 96, the merchant sends the credit transaction order to the alias account facilitator 52. In step 98, the alias account facilitator strips the alias account information from the credit card transaction order and replaces the information with the primary core account information. Then, in step 100, the modified credit transaction order is sent to the acquiring processor 38.

In step 102 (FIG. 4B), the acquiring processor, utilizing the ACH Network, requests authorization from the issuing financial institution 40 or, if required, the card issuer 44. In step 104, the card issuer or the issuing financial institution replies to the authorization request to the acquiring processor. The reply will include either an acceptance of the credit transaction or a rejection of the credit transaction. Next, in step 106, the acquiring processor will forward the authorization response to the merchant.

In step 108, it is determined by the merchant if the credit transaction is accepted. If the credit transaction is accepted, the method moves to step 110 where the merchant sends the ordered item(s) to the purchaser. The ordered item may optionally be delivered via shipping system 59 to an alias address associated with the alias name of the purchaser. The alias address may be located at a private postal store or at a remote location such as a postal box

located at a U.S. Postal Station, requiring the pickup of the ordered item by the purchaser. Alternately, the ordered item may be sent via a blind shipment to a private shipping company. The merchant sends the ordered item to the private shipping company with the purchaser's alias account number. The private shipping company then communicates with the alias account facilitator to obtain the desired shipping address of the purchaser, which may be the purchaser's actual address or an alias address.

If, however, it is determined that the credit card transaction is rejected, the method moves from step 108 to step 112, where the merchant rejects the purchaser's order.

The method described in FIGs. 4A and 4B illustrates a credit card transaction utilizing the alias account facilitator to associate the alias credit card account with the primary core account. The card issuer or issuing financial institution still tracks the primary core account, but is unaware of the alias account information. Since the alias account facilitator is the only institution which can associate the correct primary core account with the alias account of the purchaser, privacy is insured solely by the alias account facilitator.

FIGs. 5A and 5B are flow charts outlining the steps for processing a alias credit card transaction though the alias account facilitator 52 acting as an Independent Service Organization (ISO) in an alternate embodiment of the present invention. With reference to FIGs. 2, 5A, and 5B, the steps of the method will now be described. Beginning with step 120, the purchaser 30 orders an item utilizing an alias account name and number. The purchaser may purchase via the Internet, telephone, mail, or in person. In step 122, the merchant receives the order from the purchaser. In step 124, the merchant may verify the identity of the purchaser by requesting a PIN from the purchaser. The PIN is then verified via the PIN confirmation system 48. Next in step 126, the merchant sends the credit card transaction order to the alias account facilitator 52. In step 128, the alias account facilitator strips the alias account information from the credit card transaction order and replaces the information with the primary core account information.

In step 130, the alias account facilitator 52, utilizing the ACH Network, requests authorization from the issuing financial institution 40 or, if required, the card issuer 44, thereby functioning as an ISO. An ISO performs sale and/or service transactions on behalf of the issuing financial institution 40 or the acquiring processor 38. In step 132 (FIG. 5B), the card issuer or the issuing financial institution replies to the authorization request to the alias account facilitator. The reply will include either an acceptance of the credit card transaction

or a rejection of the credit card transaction. Next, in step 134, the alias account facilitator will forward the authorization response to the merchant.

In step 136, it is determined by the merchant if the credit card transaction is accepted. If the credit card transaction is accepted, the method moves to step 138 where the merchant sends the ordered item(s) to the purchaser. The ordered item may optionally be delivered via shipping system 59 to an alias address associated with the alias name of the purchaser. The alias address may be located at a private postal store or at another remote location such as a postal box located at a U.S. Postal Station, requiring the pickup of the ordered item by the purchaser. Alternately, the ordered item may be sent via a blind shipment to a private shipping company. The merchant sends the ordered item to the private shipping company with the purchaser's alias account number. The private shipping company then communicates with the alias account facilitator to obtain the desired shipping address of the purchaser, which may be the purchaser's actual address or an alias address.

If, however, it is determined that the credit card transaction is rejected, the method moves from step 136 to step 140, where the merchant rejects the purchaser's order.

The method of FIGs. 5A and 5B describes a credit card transaction utilizing the alias account facilitator to associate the alias credit card account with the primary core account. The alias account facilitator also acts as the ISO, obtaining authorization via the ACH network. The card issuer or financial institution still tracks the primary core account, but is unaware of the alias account information. Since the alias account facilitator is the only institution which can associate the correct primary core account with the alias account of the purchaser, privacy is insured solely by the alias account facilitator.

FIGs. 6A and 6B are flow charts outlining the steps for establishing an alias account by the purchaser 30 having an existing account in the preferred embodiment of the present invention. With reference to FIGs. 2, 6A, and 6B, the steps of the method will now be described. Beginning with step 150, the purchaser communicates with the alias account facilitator 52. In the preferred embodiment of the present invention, the purchaser communicates through a web site of the alias account facilitator via a secure link to the Internet. The alias account facilitator web site may be reached by going directly to the site or through a hyperlink associated with another web site, such as a banking institution or Internet banner advertisement. However, in alternate embodiments, the purchaser may communicate by telephone, mail, or in person. Next, in step 152, the alias account facilitator requests

information regarding the purchaser and his existing account. In step 154, the purchaser sends the information to the alias account facilitator. Then, in step 156, the alias account facilitator creates alias information associated with the existing account (primary core account) of the purchaser. The alias information may include an alias name, address, and PIN number. Alias names, in the preferred embodiment of the present invention, are typically generated in a series of 1000 accounts per series (e.g., Roberts series would have Roberts1000 through Roberts2000). In an alternate embodiment of the present invention, the customer may select his own alias, within certain prescribed parameters. A series number is then added to the customer's selected name. In still another alternate embodiment, any series of symbols or numbers may be used to form an alias name.

The purchaser may optionally request an alias address to which an ordered item may be sent. The alias address may be located at a private postal store or at any remote location such as a postal box located at a U.S. Postal Station, requiring the pickup of the ordered item by the purchaser. A convenient location of the alias address may be selected by the purchaser, such as the nearest private postal store. Alternately, the ordered item may be sent via a blind shipment to a private shipping company. When a blind shipment is made, the merchant sends the ordered item to the private shipping company with the purchaser's alias account information. The purchaser may request delivery via private shipping company. The purchaser must select the desired location where the ordered item is to be delivered, such as a home address or a postal box. The creation of an alias address may be done at the time of establishing an alias account or a later time by the alias account facilitator. The alias account facilitator may store the alias address with the other alias information of the purchaser.

Next, in step 158, the alias account facilitator sends the alias information and the existing account information to the issuing financial institution 40 or card issuer 44 for verification. In step 160 (FIG. 6B), the issuing financial institution or card issuer verifies current account information of the purchaser 30. In step 162, it is determined by the issuing financial institution or card issuer whether the existing account is valid. If the existing account is not valid, the method moves to step 164 where the issuing financial institution or card issuer sends a rejection to the alias account facilitator. Next, in step 166, the alias account facilitator sends an invalid account notice to the purchaser.

However, if it is determined that the existing account is valid, the method moves from step 162 to step 168 where the issuing financial institution or card issuer creates an alias

parallel account associated with the existing account. Next, in step 170, the issuing financial institution or card issuer sends the alias account information to the alias account facilitator. In step 172, the alias account facilitator sends the alias account information to the purchaser by e-mail, a secure Internet web page, postal service, or direct delivery. If a PIN is utilized in the alias account, the PIN is sent separately from the alias account information for added security. Any of the information items of the alias account information may also be sent separately to ensure added levels of security. Additional, if the purchaser desires a physical credit card, the issuing financial institution or card issuer sends a physical card to the purchaser.

FIGs. 7A, 7B, and 7C are flow charts outlining the steps for establishing an alias account by the purchaser 30 requiring a primary core account. With reference to FIGs. 2, 7A, 7B, and 7C, the steps of the method will now be described. Beginning with step 180, the purchaser communicates with the alias account facilitator 52. As described in FIG. 6, communication may take the form of mail, telephone, via Internet, or in person. Next, in step 182, the alias account facilitator requests information of the purchaser necessary for establishing a credit account. In step 184, the purchaser sends the requested information to the alias account facilitator. Then, in step 186, the alias account facilitator creates alias information. The alias information may include an alias name, address, and PIN.

Next, in step 188, the alias account facilitator sends the alias information and the purchaser information to the issuing financial institution 40 or card issuer 44 for verification, credit check, and account set-up. In step 190 (FIG. 7B), the issuing financial institution or card issuer verifies the data of the purchaser 30. In step 192, it is determined by the issuing financial institution or card issuer if the purchaser has proper identification and acceptable credit for the establishment of a credit account. If a new account is rejected for the purchaser, the method moves to step 194 where the issuing financial institution or card issuer sends a rejection to the alias account facilitator. Next, in step 196, the alias account facilitator sends a rejection notice to the purchaser.

However, if it is determined that the application of the purchaser 30 is accepted, the method moves from step 192 to step 198 where the issuing financial institution or card issuer creates both a new primary core account and an alias parallel account associated with the primary core account. In an alternate embodiment, only an alias account is created, without a core account. Next, in step 200, the issuing financial institution or card issuer sends the alias

account information to the alias account facilitator. In step 202, the alias account facilitator sends the alias account information to the purchaser by e-mail, a secure Internet web page, postal service, or direct delivery. If a PIN is utilized in the alias account, the PIN is sent separately from the alias account information for added security. Any of the information items of the alias account information may also be sent separately to ensure added levels of security. Additional, if the purchaser desires a physical credit card, the issuing financial institution or card issuer sends a physical card to the purchaser.

FIG. 8 is a top level diagram illustrating a system configuration of an alias account system 220 in the preferred embodiment of the present invention. The alias account system includes the alias account facilitator 52 having a plurality of data connections 222 to a plurality of providers 224, issuing financial institutions 40, and provider data hosts 226. The alias account facilitator may be located at a host site having a secure server 228 (e.g., Electronic Data Systems). The data connections may be dedicated or dial-up connections. The plurality of providers 224 and issuing financial institutions 40 are credit card issuers. Some of the providers 224 may include provider data hosts 226 which host the database of a corresponding provider 224. In the preferred embodiment of the present invention, the data transmitted between the alias account facilitator and the issuing financial institutions and the providers is encrypted for security.

FIG. 9 is a diagram of high level information transfer by the alias account system 220 in the preferred embodiment of the present invention.

Data may be sent a variety of ways to include communications with an object based database 230 or a DB2 based database 232. Additionally, data may be transferred via the Internet to an institution's Internet server 234 which accesses an institution's core database 236. In the preferred embodiment of the present invention, communication between the alias account facilitator 52 and the various institutional databases is done over a dedicated encrypted communications link.

When the alias account facilitator 52 communicates with the object based database 230, a proxy server 240 utilizing an object-based computer language, such as CORBA is used. The proxy server may signal the database 230 by sending an object request to record message 242. The database may respond by sending an acknowledge and open record message 244 to the proxy server. Next, the proxy server may send an action to account message 246 to the database. The database may then respond by sending a confirmation and close record message

248 to the proxy server. In an alternate method, a CORBA object from the proxy server may contain the record message 242, open record message 244, and action to account message 246 all in one object. The database would then only respond with a confirmation; and close record message 248 or an invalid account message to the proxy server.

When the alias account facilitator 52 communicates with the institution's core database 236 via the Internet, a web server 250 using HTML or XML communicates with the institution's Internet server 234. An HTML page 252 or XML object is sent between the web server and the institutions Internet server to communicate.

When the alias account facilitator 52 communicates with the DB2-based database 232, a DB2-based proxy server 254 is used. The proxy server signals the database 232 by sending a request to open record message 256. The database responds by sending an acknowledge and open record message 258 to the proxy server. Next, the proxy server sends an action to account message 260 to the database. The database then responds by sending a confirmation and close record message 262 to the proxy server.

There are several different types of accounts which may be established with an existing credit card account. An existing credit card account may be converted to an alias account in which the existing credit card (real identity) is canceled and replaced with an alias name and account number. An alias account may be an affinity card account in which the alias account includes an affiliation with an organization (e.g., alma mater, sports team, retailer, etc.). The alias account may include both an alias name and a completely different account number from the existing primary account or the same account number as the existing primary account. The alias account may be established as a core account linked to another core account via an identification tag.

When a purchaser does not have an existing credit card core account and a new credit card account must be establish, several options exist in the creation of an alias account. A purchaser may establish only an alias account without creating a new primary core account with the purchaser's true identity. The alias account may be an affinity card account associated with an organization. The alias account may include the same or a different account number as a primary core account having the purchaser's real identity. The alias account may also be a core account linked to another core account via an identification tag.

The alias account may include a virtual card and/or a physical card. A virtual card includes the alias information of the purchaser and an expiration date, that may be stored on

any medium, including a digital medium (e.g., computer, set top box, Internet appliance, wireless phone or other wireless device), without any physical card. The alias account may be associated with a physical card which may include a photo identification for verification of the individual as the true purchaser when making live purchases. To further enhance the individual's privacy while ensuring against fraudulent purchases on the alias account, the physical card may be two separate cards. A first card may be an official identification card with a photograph of the purchaser. The second card may be a card used for purchases or other purposes. The alias account may be a debit card, credit card, automated teller machine (ATM) card, electronic cash card, smart card, digital check, medical/prescription card, or any other form of medium used to conduct transactions/sales.

In an alternate embodiment of the present invention, the purchaser may request specific marketing information resulting from the credit card transactions be sent to the purchaser. During the creation of an alias account, the purchaser may select various types or subjects of marketing ads which the purchaser wishes to be sent to the purchaser. The alias account facilitator 38 may filter the desired marketing information out from the unwanted material and deliver the selected material directly to the purchaser (via e-mail, mail, or telephone) or to an alias address.

The method described above offers many advantages over existing credit card transactions. The method provides privacy for a purchaser using a credit card. By masking the true identity of the purchaser, the purchaser avoids unwanted solicitations. Additionally, personal information, including the spending habits of the purchaser, is held only by those parties needing information during the credit card transaction. The method also prevents identity theft by providing an alias which cannot be used for identifying a specific individual. By utilizing the described invention, more purchasers are encouraged to purchases items, especially via the Internet, through the use of credit cards.

In an alternate embodiment, the present invention may be used in medical transactions. Currently, medical cards are utilized by patients when seeking medical assistance at a hospital, health care provider, or making a purchase at a pharmacy or other health care related merchant. The medical cards typically contain information on the patient's medical insurer, medical insurance data, and other relevant information for the payment of services. FIG. 10 is a block diagram illustrating a medical transaction of a purchaser 300 utilizing an alias account in accordance with the teachings of the present invention. The purchaser 300 communicates with

a health care provider 302, such as a hospital, physician, pharmacist, or other health related institution or merchant. The purchaser is an individual purchasing medical services or goods, typically a patient, insured individual, or head of family to which the medical services are charged. The purchaser may utilize a medical card having an alias name, account or member number, group number, and other information similar to the alias credit card discussed above. The health care provider then communicates with an acquiring processor 304 to obtain authorization of the transaction order of the purchaser and any necessary coverage information on the purchaser. The acquiring processor, utilizing a health insurance network similar to the ACH network, requests purchase or coverage authorization and other coverage information from a financial institution 306. The financial institution is any organization which handles the health account of the purchaser, such as a health insurance company, plan administrator, health maintenance organization (HMO), or some other service organization storing the information of the purchaser.

The financial institution 306, matches the alias name and account of the purchaser 300 with the core name and account and responds by sending the coverage or purchase authorization and any other coverage information necessary for the medical transaction to the acquiring processor 304. The acquiring processor then sends the information to the health care provider 302.

If, however, it is determined that the authorization is rejected, the health care provider 302 rejects the purchaser's service or product purchaser request.

In an alternate embodiment, the health care provider may send a request for coverage authorization or coverage information to an alias account facilitator 308. The alias account facilitator can then determine the core account corresponding to the purchaser 300 and request information from the acquiring processor 304. The acquiring processor then requests information from the financial institution 306. The alias account facilitator may act as an ISO and request information directly from the financial institution. The financial institution then sends the requested information back via the alias account facilitator to the health care provider.

Alternatively, the purchaser 300 may establish an alias health account associated with the purchaser. The alias health account may include an alias name masking the true identity of the purchaser and may also include an alias account or member number, an alias address, an alias group number, and an alias PIN. The purchaser then conducts a medical transaction

with the health care provider 302 to purchase a selected item or service using the alias account, in a manner similar to the methods described in FIGs. 3-5. This transaction may or may not include the use of a physical credit card. The alias account is then verified as a valid account (either via the alias account facilitator 308 or the acquiring processor 304) to the financial institution 306. The alias account facilitator or acquiring processor then verifies that sufficient coverage or credit is available to purchase the selected item or service from the financial institution. The alias account is associated with a core account displaying the true identity of the purchaser. The transaction is then recorded and may be debited to the core account.

Still referring to FIG. 10, the purchaser 300 may also use an alias name when transferring medical records from a first primary health care provider 302 to a secondary health care provider 309. The health care provider 302 may transfer the medical records to the alias account facilitator 308 who replaces the true identity of the purchaser with an alias name. The records are then transferred to the second health care provider 309. The medical records, with associated history, may then be examined by the second health care provider 309, without knowing the true identity of the purchaser. In addition, when the patient is examined by the second health care provider 309, the purchaser uses the alias name associated with the aliased medical records, thereby keeping the privacy of the purchaser, while still providing all the relevant information necessary for the second health care provider to treat the purchaser.

The method described in FIG. 10 offers advantages over existing medical systems. The purchaser's privacy is maintained by providing a health care provider with alias information, preventing the transfer of personal information, while still allowing the health care provider a method of verifying the coverage of their patients. In addition, the card may be used at participating pharmacies or other health care related merchants, allowing the anonymous procurement of prescribed drugs and other prescribed health products and services.

An alias account may also be utilized in conjunction with flexible spending accounts. Many employers use flexible spending accounts for medical and child care expenses. An employee directs a specific amount of the employee's wages be sent to the flexible spending account. The employee, after paying the child care or medical expense incurred, may submit a request for reimbursement from the flexible spending account. By using a flexible spending account, the employee is not taxed on wages which are placed within the flexible spending account. In an alternate embodiment of the present invention, the employee may give an alias name and number to the health care provider or a child care provider. The health care provider

or child care provider can then submit a request for payment from the alias account facilitator. The alias account facilitator may then request transfer of funds from the employee's flexible spending account to the health care provider or child care provider via the employer or employer's plan administrator. By utilizing an alias account, the employee does not have to give personal information to the health care provider or child care provider. Additionally, payment is simplified for the employee since the employee does not have to submit paperwork to request reimbursement.

In still another alternate embodiment, the credit status of an individual necessary to complete a purchase may be examined by utilizing an alias name and account. In existing systems, a customer requesting credit or verifying credit worthiness to complete a purchase, such as for a home mortgage or telephone service, must submit personal information to a financial institution, such as a mortgage company to obtain credit approval. The financial institutions may include banks, mortgage companies, utility companies, merchants, or telephone companies. Many times, the financial institutions compile information on customers, and sells the information to marketing agencies. To prevent the transfer of this personal information, while still providing the financial institution with a method of verifying the credit rating of the customer, an alias name and account may be utilized. FIG. 11 is a block diagram illustrating a transaction for determining a credit status of a customer 310 utilizing an alias account in accordance with the teachings of the present invention. The customer requests a transaction requiring a credit status check of the customer from a financial institution 312. The financial institution may be any organization to which a customer must provide his credit status to complete a requested transaction, such as a bank, mortgage company, utility company, merchant, or telephone company. The financial institution requests a credit report from an alias account facilitator 314. The alias account facilitator matches the alias name and account with the true identity of the customer. The alias account facilitator then requests a credit report for the customer from a credit bureau 316 (e.g, Equifax, Experian, Trans Union, etc.) which maintains detailed credit reports on individuals. The credit bureau then responds by sending the requested credit report to the alias account facilitator. The alias account facilitator then sends the credit report to the financial institution with the true identity removed from the credit report. The financial institution then determines whether to provide the requested credit to the customer.

Still referring to FIG. 11, the customer 310 may also provide various financial institutions 312 with information on an alias saving account(s). The savings account may be associated with a core account having the true identity of the customer. However the alias savings account includes an alias name and optional alias address, thereby providing anonymity to the customer when providing the savings account information to the financial institution.

By utilizing the method described in FIG. 11, a customer may receive a credit check from a financial institution without providing personal information to the financial institution. By preventing the financial institution from determining the true identity of a customer, the customer's privacy is maintained.

It is thus believed that the operation and construction of the present invention will be apparent from the foregoing description. While the method shown and described has been characterized as being preferred, it will be readily apparent that various changes and modifications could be made therein without departing from the scope of the invention as defined in the following claims.

WHAT IS CLAIMED IS:

1. A method of masking a true identity of a purchaser (30) during a credit transaction, the method comprising the steps of:

establishing an alias credit account associated with the purchaser, the alias credit account masking the true identity of the purchaser;

conducting a credit transaction by the purchaser to purchase a selected item using the alias credit account; and

associating the alias credit account with the purchaser.

2. The method of masking a true identity of a purchaser of claim 1 wherein the step of associating the alias credit account with the purchaser includes associating the alias credit account with a core account having the true identity of the purchaser.

3. The method of masking a true identity of a purchaser of claim 2 wherein the step of associating the alias credit account with a core account includes debiting the core account for the credit card transaction.

4. The method of masking a true identity of a purchaser of claim 2 wherein the step of associating the alias credit account with a core account includes linking, by a service organization, the alias credit account with the core account.

5. The method of masking a true identity of a purchaser of claim 4 wherein the step of linking, by a service organization, the alias credit account with the core account includes stripping alias information from the alias account and replacing the stripped alias information with information from the core account.

6. The method of masking a true identity of a purchaser of claim 4 further comprising, after the step of associating the alias credit account with a core account, the steps of:

receiving, in the service organization, a plurality of marketing advertisements in association with the credit transaction;

transmitting, by the purchaser to the service organization, selected marketing advertisements for the purchaser;

filtering, by the service organization, the selected marketing advertisements for the purchaser; and

sending the selected marketing advertisements to the purchaser.

7. The method of masking a true identity of a purchaser of claim 1 wherein the alias credit account displays alias information masking the true identity of the purchaser.

8. The method of masking a true identity of a purchaser of claim 7 wherein the alias information includes an alias name and an alias account number.

9. The method of masking a true identity of a purchaser of claim 8 wherein the alias information includes an alias address for the purchaser.

10. The method of masking a true identity of a purchaser of claim 8 further comprising, after the step of associating the alias credit account with the purchaser, the step of delivering the selected item to the alias address.

11. The method of masking a true identity of a purchaser of claim 1 wherein the alias credit account includes a virtual card having an alias name and alias account number.

12. The method of masking a true identity of a purchaser of claim 1 wherein the alias credit account includes a physical card having an alias name and alias account number.

13. The method of masking a true identity of a purchaser of claim 12 wherein the physical card includes a photograph of the purchaser to verify the purchaser.

14. The method of masking a true identity of a purchaser of claim 1 wherein the step of conducting a credit card transaction by the purchaser includes authorizing the transaction.

15. The method of masking a true identity of a purchaser of claim 14 wherein the step of authorizing the transaction includes:

requesting a credit status report on the purchaser by a merchant selling to the purchaser in the transaction;

associating the alias account with the true identity of the purchaser; and

sending the credit status report of the purchaser to the merchant.

16. The method of masking a true identity of a purchaser of claim 14 wherein the step of authorizing the transaction includes: verifying the alias account as a valid credit account; and verifying that credit is available to purchase the selected item.

17. The method of masking a true identity of a purchaser of claim 1 further comprising, after the step of associating the alias credit account with the purchaser, the step of delivering the selected item to the purchaser.

18. The method of masking a true identity of a purchaser of claim 17 wherein the step of delivering the selected item to the purchaser includes:

delivering the selected item to a shipping company;

associating the alias account with a desired address of the purchaser; and

delivering the selected item to the desired address.

19. The method of masking a true identity of a purchaser of claim 17 wherein the desired address is an alias address for pickup of the selected item by the purchaser.

20. The method of masking a true identity of a purchaser of claim 1 wherein the step of enacting a credit card transaction by the purchaser includes verifying the purchaser through a Personal Identification Number (PIN) confirmation system.

21. A method of conducting an anonymous credit card transaction by a purchaser (30), the method comprising the steps of:

ordering a selected item by the purchaser, the purchaser utilizing an alias credit account having alias information of the purchaser, the alias credit account associated with a core account having a real identity of the purchaser;

authorizing a purchase of the selected item; and

sending the selected item to the purchaser.

22. The method of conducting an anonymous credit transaction of claim 22, wherein the step of authorizing a purchase of the selected item includes verifying the alias account as valid and having allowable credit to purchase the selected item.

23. The method of conducting an anonymous credit transaction of claim 22, wherein the step of verifying the alias account includes linking the alias account with the core account of the purchaser through a service organization.

24. The method of conducting an anonymous credit transaction of claim 23 wherein the service organization alone maintains a database for associating the alias credit account with the core account.

25. The method of conducting an anonymous credit transaction of claim 21 wherein the step of sending the selected item to the purchaser includes the step of delivering the selected item to an alias address for pickup by the purchaser.

26. The method of conducting an anonymous credit transaction of claim 21 wherein the step of sending the selected item to the purchaser includes the steps of:

delivering the selected item to a shipping company;

associating the alias account with a desired address of the purchaser; and

delivering the selected item to the desired address.

27. A method of masking a true identity of a purchaser (30) during a credit transaction, the method comprising the steps of:

establishing an alias credit account associated with the purchaser, the alias credit account having an alias name masking the true identity of the purchaser;

conducting a credit transaction by the purchaser to purchase a selected item using the alias account;

verifying that the alias account is a valid credit account and that credit is available to purchase the selected item;

associating the alias credit account with a core account displaying the true identity of the purchaser; and

debiting the core account for the credit transaction.

28. The method of masking the identity of a purchaser of claim 27, further comprising, after the step of associating the alias credit account with a core account, the step of delivering the selected item to a desired address of the purchaser.

29. A method of masking a true identity of an individual (30) during a transaction, the method comprising the steps of:

establishing an alias account associated with the individual, the alias account masking the true identity of the individual;

conducting a transaction by the individual using the alias account; and

associating the alias account with the individual.

30. The method of masking a true identity of an individual of claim 29 wherein:

the individual is a patient;

the step of conducting a transaction includes:

treating a patient, by a health care provider; and

requesting information on health insurance coverage of the patient by the health care provider; and

the step of associating the alias account with the individual includes linking the alias account to the true identity of the individual.

31. The method of masking a true identity of an individual of claim 30 further comprising, after the step of associating the alias account with the individual, the step of transmitting the requested information of the patient to the health care provider.

32. The method of masking a true identity of an individual of claim 29 wherein:

the alias account is associated with a flexible spending account of the individual; and

the step of conducting a transaction by the individual includes:

providing a benefits provider providing benefits to the individual with information from the alias account; and

requesting payment from the alias account by the benefits provider.

33. The method of masking a true identity of an individual of claim 32 further comprising, after the step of associating the alias account with the individual, the step of paying the benefits provider from the alias account.

34. The method of masking a true identity of an individual of claim 29 wherein:

the individual is a purchaser;

the step of conducting a transaction includes:

purchasing through the alias account by the purchaser from a health care merchant; and

requesting information on health coverage of the purchaser by the health merchant; and

the step of associating the alias account with the purchaser includes linking the alias account to the true identity of the purchaser.

35. The method of masking a true identity of an individual of claim 34 wherein the health care merchant provides medical services during the transaction.

36. The method of masking a true identity of an individual of claim 34 wherein the health care merchant provides medical goods to the purchaser during the transaction.

37. The method of masking a true identity of an individual of claim 29 wherein:

the individual is a purchaser;

the step of conducting a transaction includes:

purchasing through the alias account by the purchaser from a health care merchant; and

verifying that the alias account is a valid credit account and that credit is available to purchase the selected item.

38. A method of masking a true identity of an individual (300) during a transfer of medical records of the patient from a first health care provider (302) to a second health care provider (309), the method comprising the steps of:

transferring the medical records from the first health care provider to a service organization (308);

masking the true identity of the individual by the service organization; and

transferring the masked medical records to the second health care provider.

39. The method of masking a true identity of an individual of claim 38 wherein the step of masking the true identity of the individual by the service organization includes the step of replacing the true identify of the individual with an alias name.

40. A method of masking a true identity of an individual (310) requiring a credit status report to complete a transaction, the method comprising the steps of:

establishing an alias account associated with the individual;

conducting the transaction by the individual to a financial institution (312) using the alias account, the transaction requiring the credit status report;

requesting the credit status report by the financial institution;

associating the alias account with the individual; and

sending the credit status report of the individual to the financial institution.

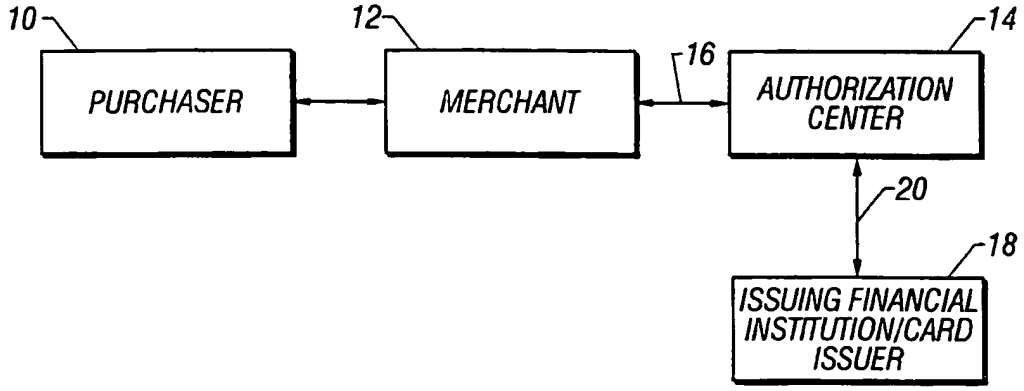


FIG. 1
(Prior Art)

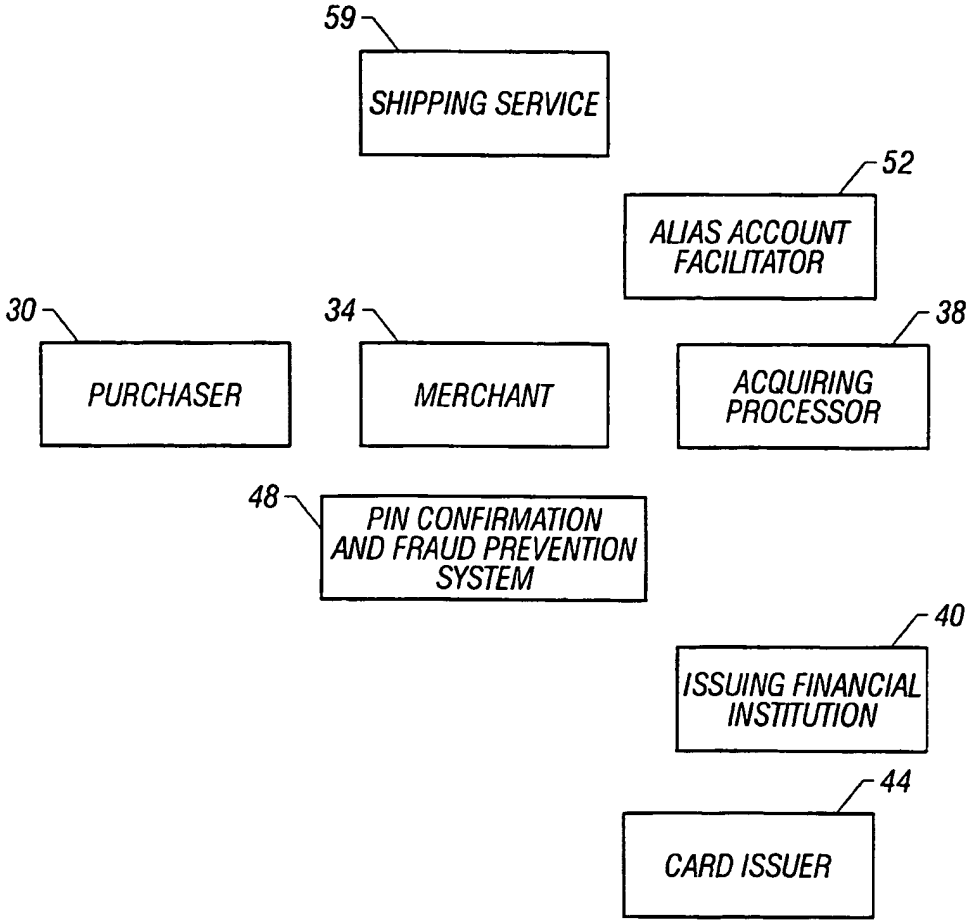
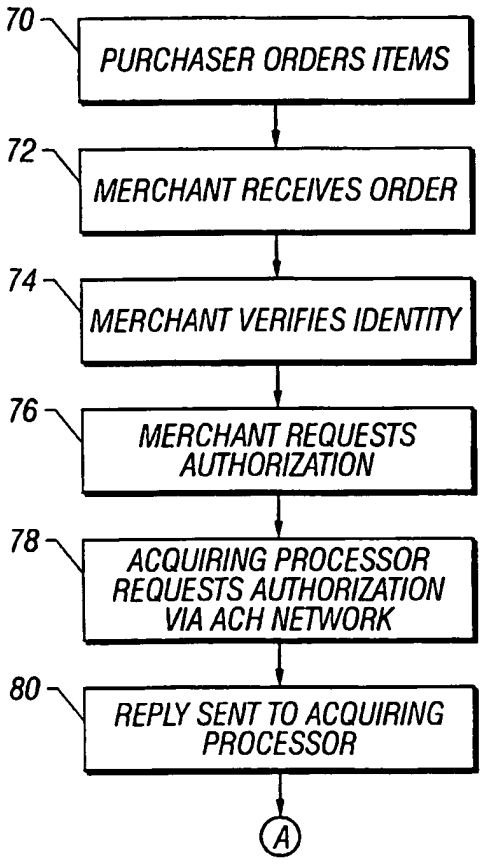


FIG. 2



TO FIG. 3B

FIG. 3A

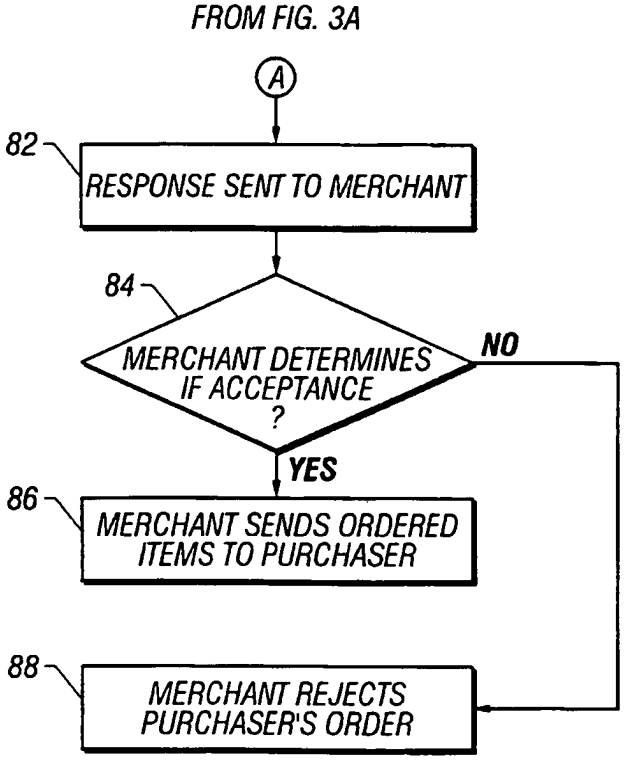
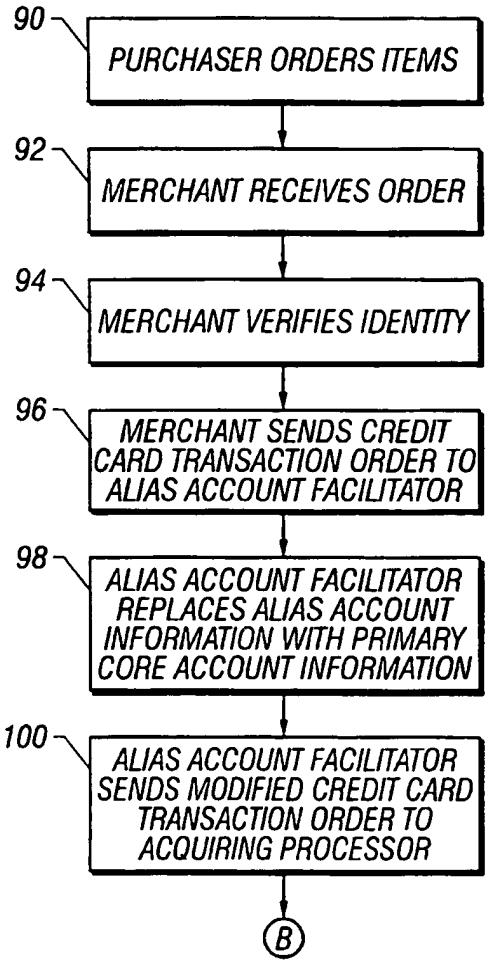

FROM FIG. 3A
A
82
RESPONSE SENT TO MERCHANT
84
MERCHANT DETERMINES IF ACCEPTANCE ?
NO
YES
86
MERCHANT SENDS ORDERED ITEMS TO PURCHASER
88
MERCHANT REJECTS PURCHASER'S ORDER

FIG. 3B



TO FIG. 4B

FIG. 4A

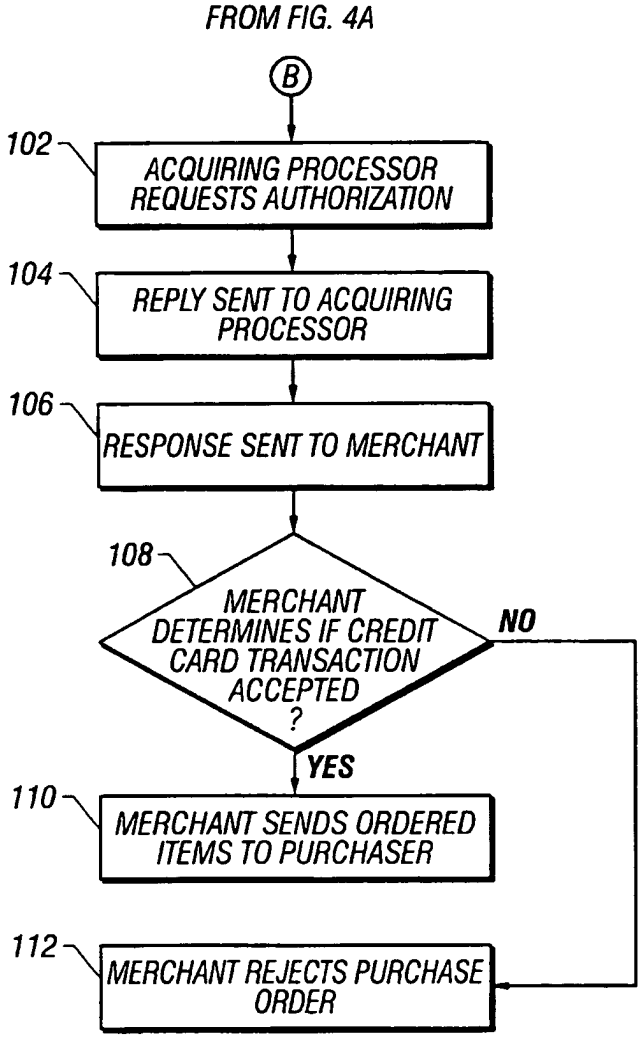
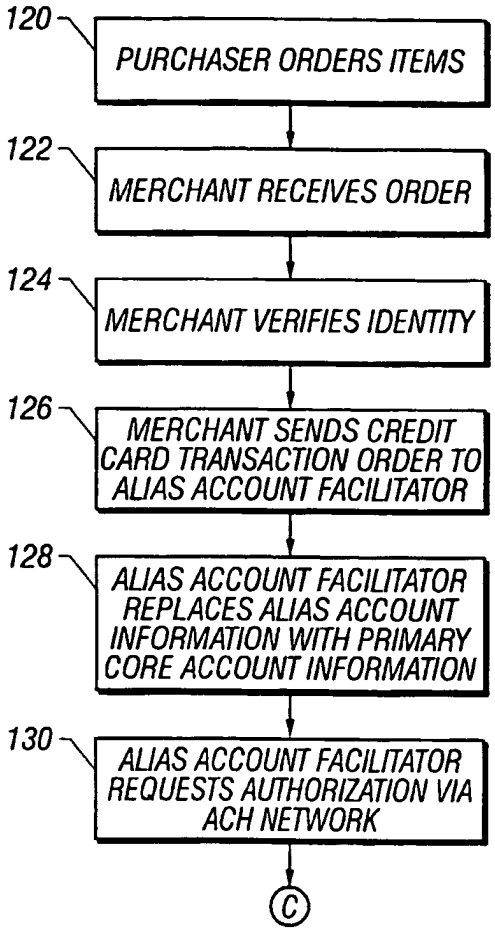

FROM FIG. 4A
B
102
ACQUIRING PROCESSOR REQUESTS AUTHORIZATION
104
REPLY SENT TO ACQUIRING PROCESSOR
106
RESPONSE SENT TO MERCHANT
108
MERCHANT DETERMINES IF CREDIT CARD TRANSACTION ACCEPTED ?
NO
YES
110
MERCHANT SENDS ORDERED ITEMS TO PURCHASER
112
MERCHANT REJECTS PURCHASE ORDER

FIG. 4B



TO FIG. 5B

FIG. 5A

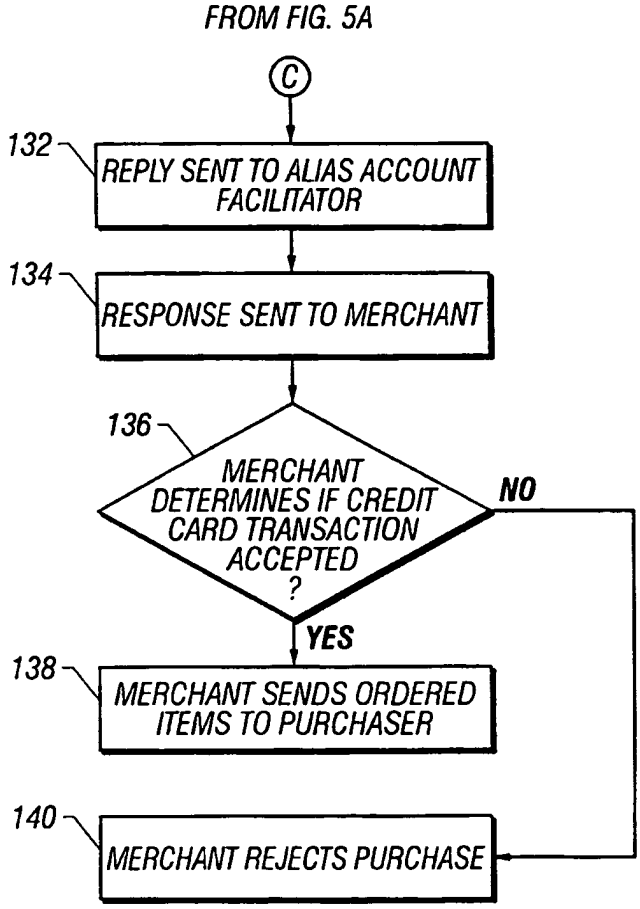
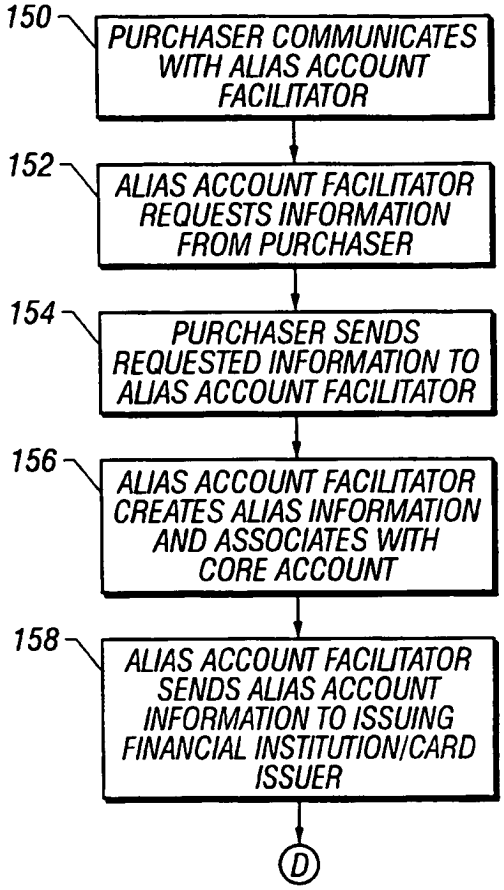

FROM FIG. 5A
C
132
REPLY SENT TO ALIAS ACCOUNT FACILITATOR
134
RESPONSE SENT TO MERCHANT
136
MERCHANT DETERMINES IF CREDIT CARD TRANSACTION ACCEPTED ?
NO
YES
138
MERCHANT SENDS ORDERED ITEMS TO PURCHASER
140
MERCHANT REJECTS PURCHASE

FIG. 5B



TO FIG. 6B

FIG. 6A

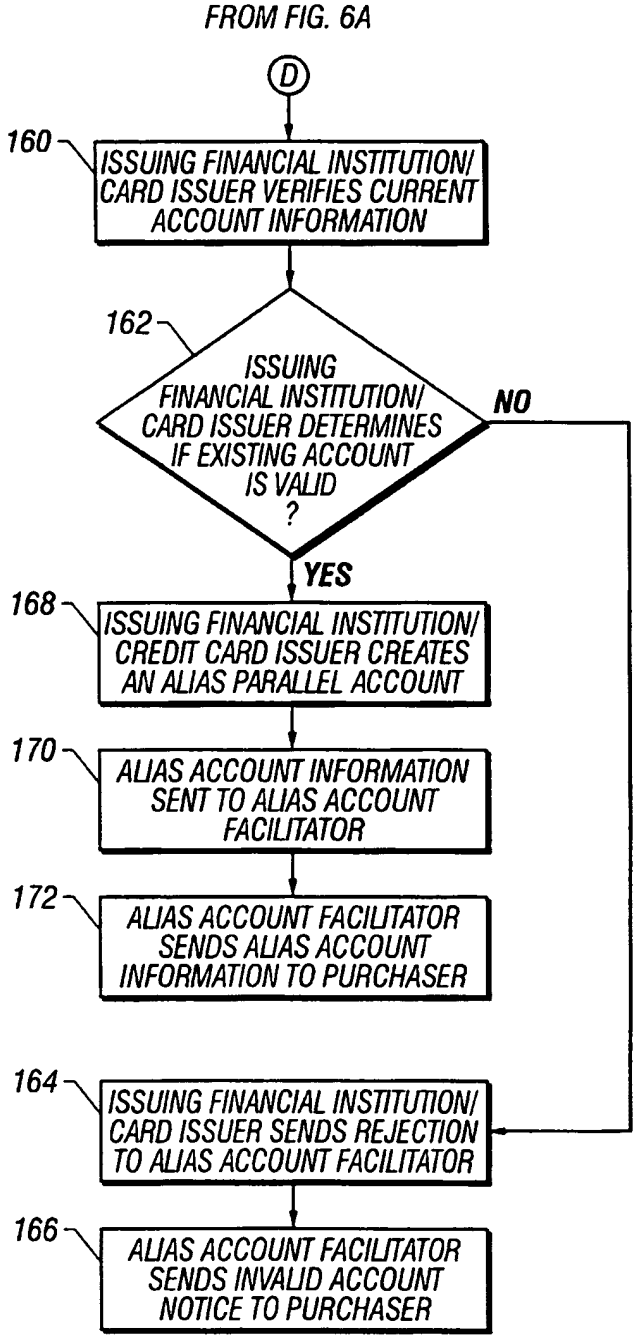
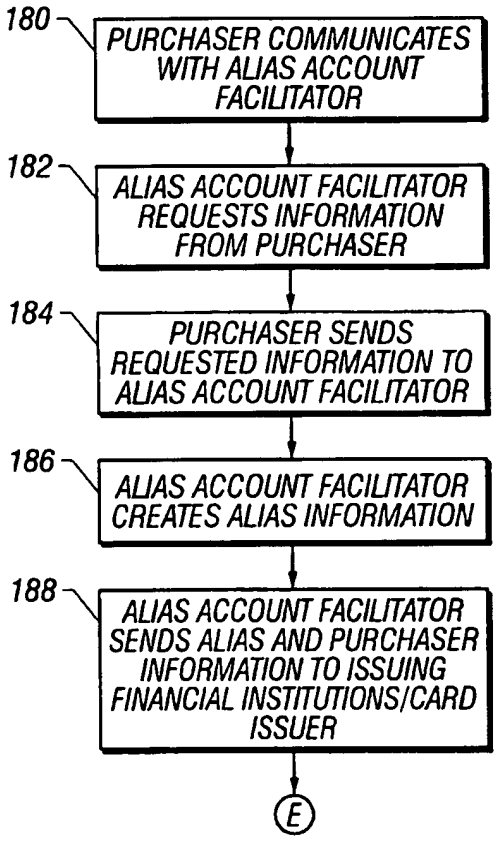

FROM FIG. 6A
D
160
ISSUING FINANCIAL INSTITUTION/ CARD ISSUER VERIFIES CURRENT ACCOUNT INFORMATION
162
ISSUING FINANCIAL INSTITUTION/ CARD ISSUER DETERMINES IF EXISTING ACCOUNT IS VALID ?
NO
YES
168
ISSUING FINANCIAL INSTITUTION/ CREDIT CARD ISSUER CREATES AN ALIAS PARALLEL ACCOUNT
170
ALIAS ACCOUNT INFORMATION SENT TO ALIAS ACCOUNT FACILITATOR
172
ALIAS ACCOUNT FACILITATOR SENDS ALIAS ACCOUNT INFORMATION TO PURCHASER
164
ISSUING FINANCIAL INSTITUTION/ CARD ISSUER SENDS REJECTION TO ALIAS ACCOUNT FACILITATOR
166
ALIAS ACCOUNT FACILITATOR SENDS INVALID ACCOUNT NOTICE TO PURCHASER

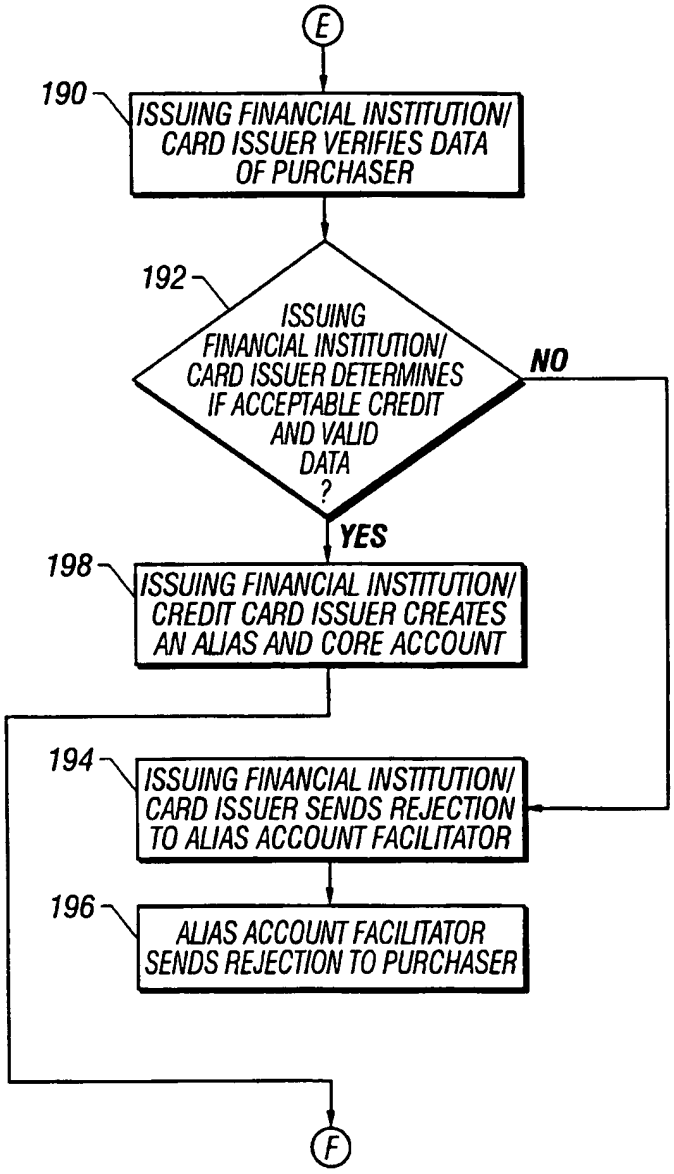
FIG. 6B



TO FIG. 7B

FIG. 7A

FROM FIG. 7A



TO FIG. 7C

FIG. 7B

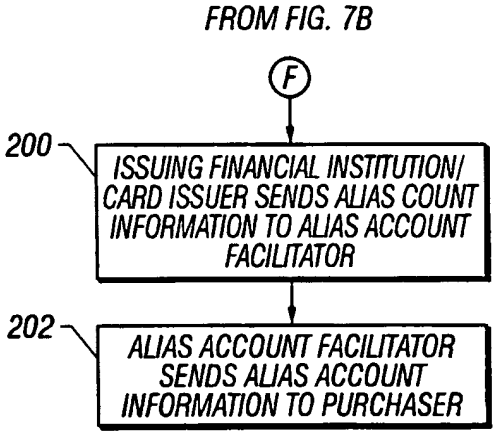

FROM FIG. 7B
F
200
ISSUING FINANCIAL INSTITUTION/ CARD ISSUER SENDS ALIAS COUNT INFORMATION TO ALIAS ACCOUNT FACILITATOR
202
ALIAS ACCOUNT FACILITATOR SENDS ALIAS ACCOUNT INFORMATION TO PURCHASER

FIG. 7C

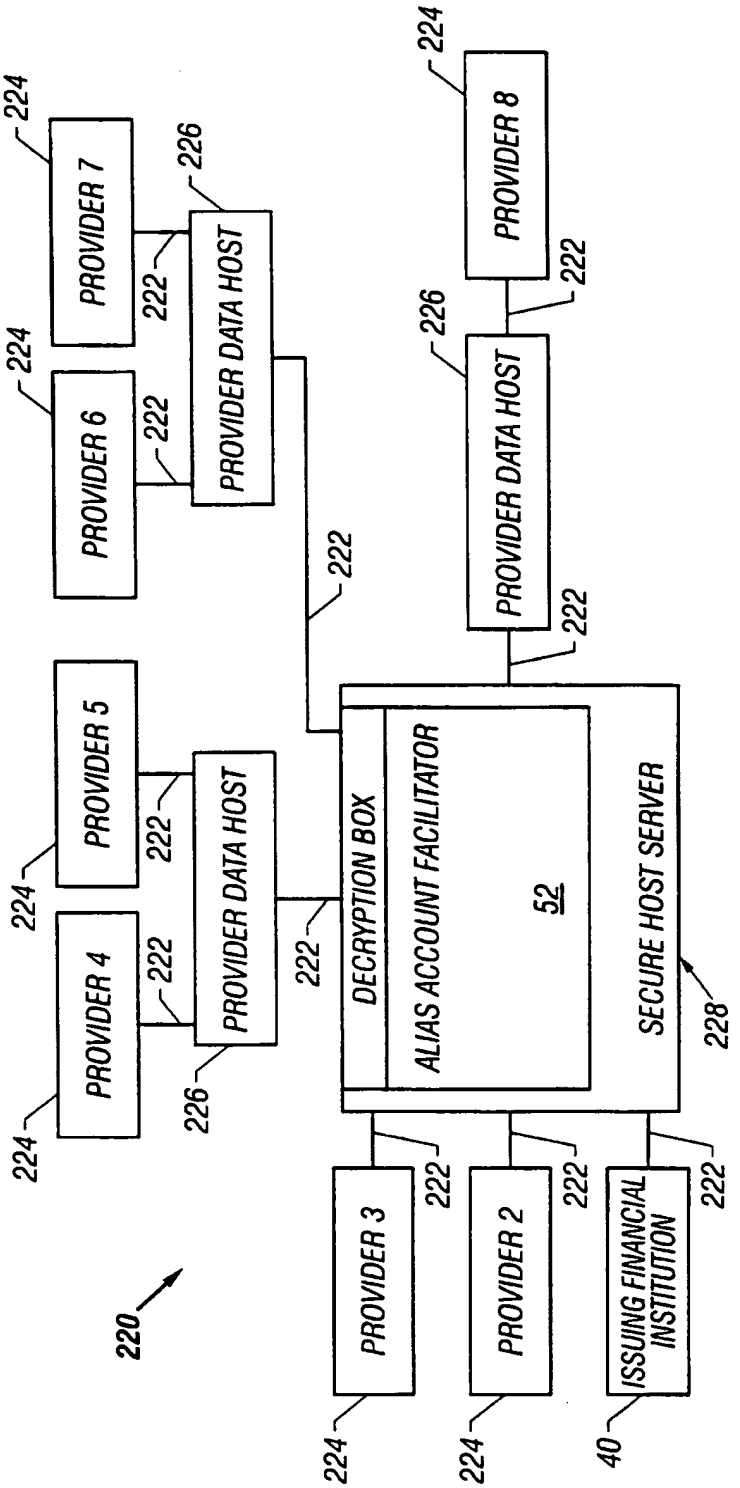

220
PROVIDER 3
PROVIDER 2
ISSUING FINANCIAL INSTITUTION
40
DECRYPTION BOX
ALIAS ACCOUNT FACILITATOR
52
SECURE HOST SERVER
228
PROVIDER DATA HOST
PROVIDER DATA HOST
PROVIDER DATA HOST
PROVIDER 4
PROVIDER 5
PROVIDER 6
PROVIDER 7
PROVIDER 8
222
224
226

FIG. 8

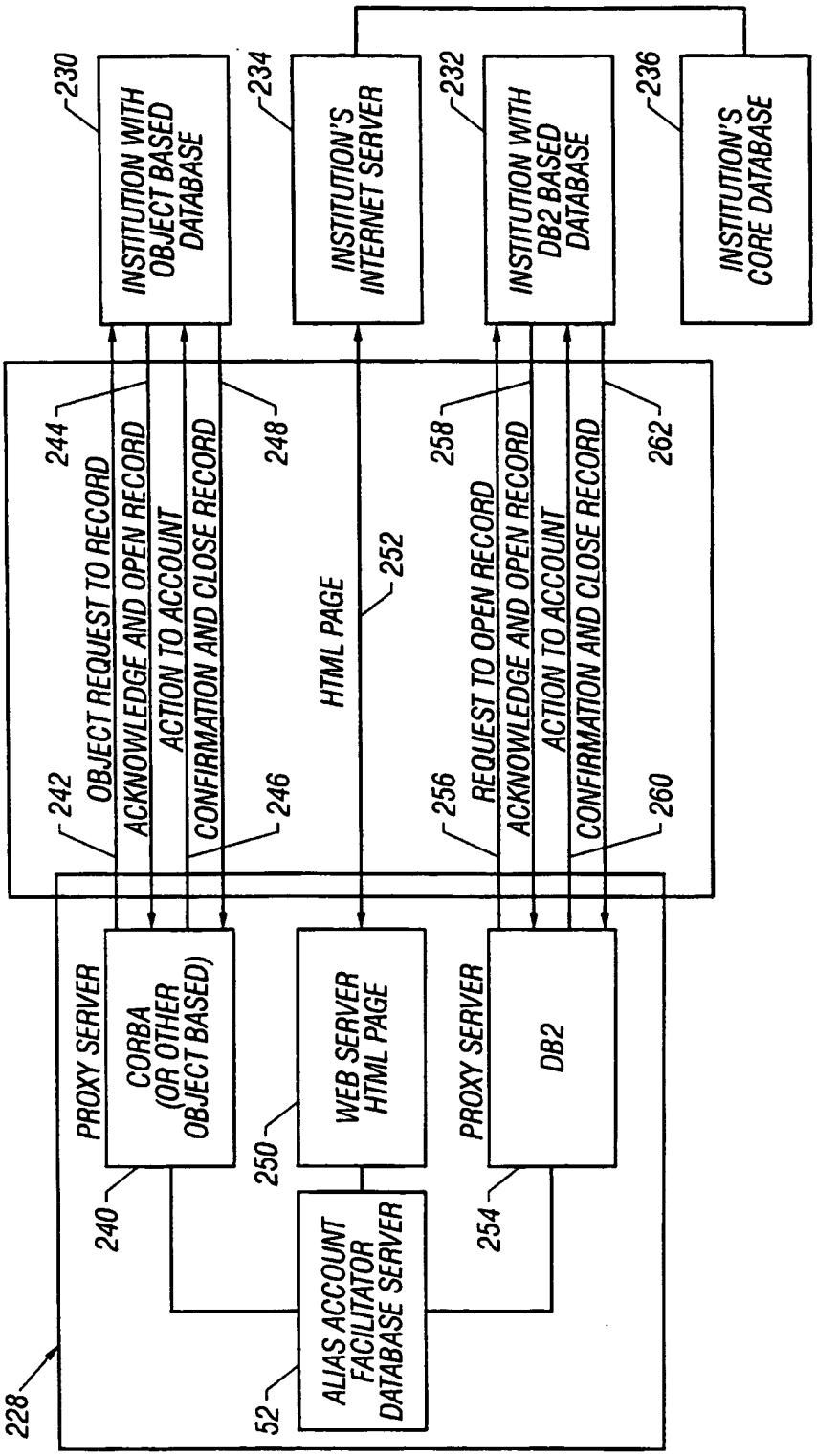

230
INSTITUTION WITH OBJECT BASED DATABASE
234
INSTITUTION'S INTERNET SERVER
232
INSTITUTION WITH DB2 BASED DATABASE
236
INSTITUTION'S CORE DATABASE
244
OBJECT REQUEST TO RECORD
ACKNOWLEDGE AND OPEN RECORD
ACTION TO ACCOUNT
CONFIRMATION AND CLOSE RECORD
248
HTML PAGE
252
258
REQUEST TO OPEN RECORD
ACKNOWLEDGE AND OPEN RECORD
ACTION TO ACCOUNT
CONFIRMATION AND CLOSE RECORD
262
242
246
256
260
PROXY SERVER
CORBA (OR OTHER OBJECT BASED)
240
WEB SERVER HTML PAGE
250
PROXY SERVER
DB2
254
ALIAS ACCOUNT FACILITATOR DATABASE SERVER
52
228

FIG. 9

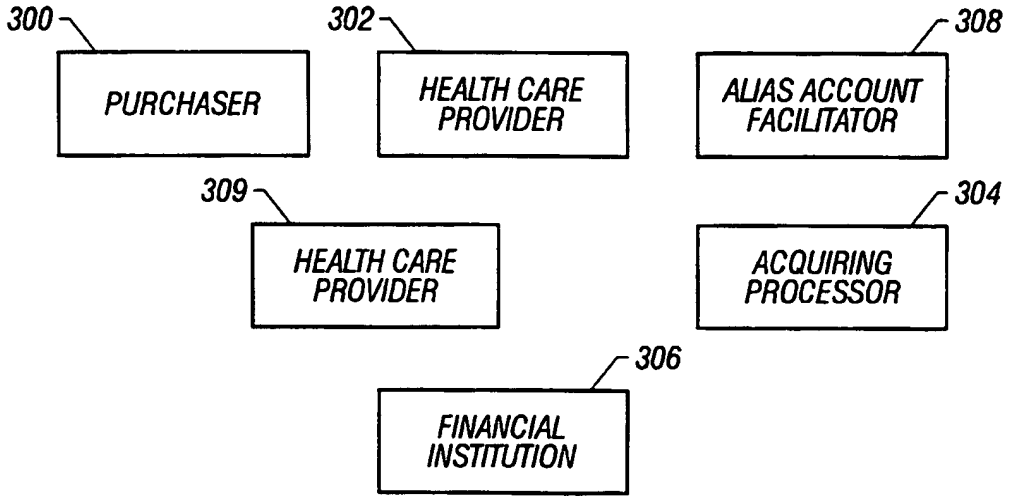

300
PURCHASER
302
HEALTH CARE PROVIDER
308
ALIAS ACCOUNT FACILITATOR
309
HEALTH CARE PROVIDER
304
ACQUIRING PROCESSOR
306
FINANCIAL INSTITUTION

FIG. 10

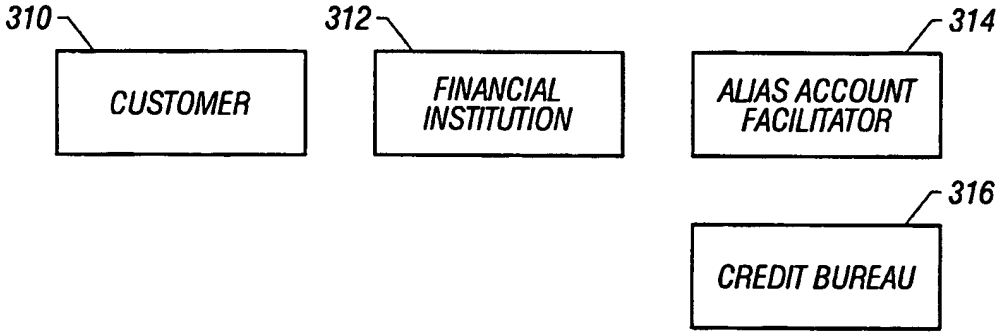

310
CUSTOMER
312
FINANCIAL INSTITUTION
314
ALIAS ACCOUNT FACILITATOR
316
CREDIT BUREAU

FIG. 11